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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,799	09/18/2003	Bruce M. Russell	IR 6320-00	6143
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EXAMINER				
GUIDOTTI, LAURA COLE				
ART UNIT		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/665,799

Applicant(s)

RUSSELL, BRUCE M.

Examiner

Laura C. Guidotti

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 26 October 2007 has been entered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Ivory, US 5,836,036 (see Attachment A).

Ivory discloses the claimed invention including a handle (11), a head (12) mounted to one end of the handle (see Figure 3), the head including a cleaning element carrier (also 12), the cleaning element carrier being in the form of a peripheral frame (14) having an open central area (29), a plurality of sets of joints located at spaced intervals of the frame (joints at intersection between 14 and lateral and transverse elements 16-26; "joint" is defined as "the place at which two things, or separate parts of one thing, are joined or united, either rigidly or in such a way as to permit motion;

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junction" according to *Dictionary.com Unabridged (v 1.1) Based on the Random House Unabridged Dictionary*, © Random House, Inc. 2006.), a plurality of generally thin support members (16-20, 22, and 24-26), cleaning elements secured along the length of the support members (each cleaning element are bunches 27 of bristles 13), each of the support members having a first end secured to the frame at one of the joints and a second end secured to the frame at one of the joints (see Figure 1, for example support member 16 has a first end secured to the frame at a joint at its leftmost end as shown in Figure 1 and has a second end secured to the frame at its rightmost end via a joint near reference numeral 12), each of the support members (16-26) being disposed transversely and laterally across said open area of the frame (Figure 1), the lateral support members being generally parallel to a longitudinal axis of the handle and perpendicular to the transverse support members (Figure 1) and the lateral support members being spaced equidistant to each other and the transverse support members being spaced equidistant to each other (as shown in Figure 1, lateral support members 16-18 are each equidistant to each other and transverse support members 19-26 are each equidistant to each other), and the support members creating an open lattice pattern having through holes over the open area of the frame (29) to facilitate the cleaning of the head (Column 1 Lines 34-38). Regarding claim 12, the cleaning elements are bristles (13).

3. Claims 1 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Wall, US 4,423,531.

Wall discloses the claimed invention including a handle (40), a head (22) sized for an oral cavity and the head mounted to one end of the handle (see Figure 1), the head including a cleaning element carrier (also 22), the cleaning element carrier being in the form of a peripheral frame (unlabeled, periphery of 22 and includes sides 28) having an open central area (86, see Figures), a plurality of sets of joints located at spaced intervals of the frame (joints at intersection between frame and lateral or transverse elements, see Figures 1 and 6; "joint" is defined as "the place at which two things, or separate parts of one thing, are joined or united, either rigidly or in such a way as to permit motion; juncture" according to *Dictionary.com Unabridged (v 1.1) Based on the Random House Unabridged Dictionary, © Random House, Inc. 2006.*), a plurality of generally thin support members (includes 68a-c, transverse ones are unlabeled), cleaning elements capable of cleaning teeth secured along the length of the support members (30), each of the support members having a first end secured to the frame at one end of the joints and a second end secured to the frame at one of the joints (Figure 1), each of the support members (lateral ones include 68a-c, transverse ones unlabeled) being disposed transversely and laterally across said open area of the frame (as shown in Figure 1), the lateral support members being generally parallel to a longitudinal axis of the handle and perpendicular to the transverse support members (68a-c) and the lateral support members being spaced equidistant to each other and the transverse support members being spaced equidistant to each other (68a-c, as shown in Figure 1, lateral support members 68a-c are each equidistant to each other and transverse support members are each equidistant to each other), and the support

members creating an open lattice pattern having through holes over the open area of the frame (86) capable of facilitating the cleaning of the head. Regarding claim 12, the cleaning elements are bristles (30).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2 and 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ivory, USPN 5,836,036 as applied to claim 1 in view of Bouchiere, USPN 6,779,851.

Ivory discloses all elements above, however does not particularly disclose that the joints are slots formed in an outer surface of the frame with the plates being mounted in the slots. It is noted that the support members of Ivory are to be considered to be plates.

Bouchiere discloses a toothbrush that has a cleaning elements carrier (10) with a support member that is a plate (14), there is a peripheral frame extending inwardly below the support member (formed by 10, see Figures), and there are joints being slots formed in the outer surface of the frame ("slots" best shown in Figure 4, the slot is the portion where 14a, 14b extend, or also shown in Figure 7 wherein the slots are the portions where ends of 14 extend), the plate being mounted in the slot (see Figures 4 or 7). Regarding claims 8-9 and 11, the plate is connected to the joints of the frame by a

mounting structure such as ultrasonic welding (Column 2 Lines 51-53) that appears to comprise a mechanical fit connection between the plates and frame (Figures 4 or 7).

Regarding claim 10, the mounting structure also may comprise an adhesive connection between the plate and frame (Column 3 Lines 37-39).

It would have been obvious for one of ordinary skill in the art at the time of the invention to modify the toothbrush support plate and frame of Ivory to further include joints being slots formed in the outer surface of the frames with the plates being mounted in the slots, as Bouchiere teaches, to allow for ultrasonic welding between the different individual components that comprise the toothbrush cleaning element carrier.

5. Claims 3-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ivory, USPN 5,836,036 as applied to claim 1 in view of Weihrauch, USPN 6,045,649.

Ivory discloses all elements above, however does not particularly disclose that the bristles are made of a thermoplastic material and the support members are made of a thermoplastic material having a melting temperature similar to the melting temperature of the bristle thermoplastic material.

Weihrauch teaches a toothbrush wherein the bristles (12) are made of a thermoplastic material and the support members, plate, (such as 10) are made of a thermoplastic material having a melting temperature similar to the melting temperature of the bristle thermoplastic material since they are the same materials (Column 4 Lines 40-47; Column 5 Lines 1-5). Regarding claim 5, when they are welded, the completed unit has a portion that is transparent to laser light wavelength and another portion that is laser beam absorbing (Column 4 Lines 48-57). Regarding claim 6, the laser beam

absorbing portion ("laser beam-absorbing material"; Column 4 Lines 58-61) is positioned at an interior of the plate ("at the connection point" see Figures; Column 4 Lines 48-65).

Regarding claim 7, the laser beam absorbing portion is a weld interface colorant (Column 4 Lines 48-52).

It would have been obvious for one of ordinary skill in the art at the time of the invention to have the bristles and made of a thermoplastic material and the support members of Ivory made of a thermoplastic material that are the same and therefore inherently have a melting temperature similar to each other, as Weihrauch teaches, in order to provide beneficial material properties that allow toothbrushes to be manufactured in processes that require laser light wavelengths.

6. Claims 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ivory, USPN 5,836,036 as applied to claim 12 in view of van Gelder, USPN 6,219,874.

Ivory discloses all elements above, however does not include bristles with rounded cleaning ends or bristles of varying lengths.

Van Gelder discloses a toothbrush wherein the bristles (3) have rounded cleaning ends (Column 4 Lines 20-22) and the bristles form a pattern of differing length (Figures 1 and 3) in order to conform to the buccal surfaces of the teeth (Column 5 Lines 28-30).

It would have been obvious for one of ordinary skill in the art at the time of the invention to modify the bristles of Ivory to have been end rounded and form a pattern of differing length, as van Gelder teaches, so that the ends are more suitable for teeth

cleaning and have bristle lengths that conform to a tooth surfaces which are to be cleaned.

7. Claims 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ivory, USPN 5,836,036 as applied to claim 1 in view of Hohlbein, USPN 6,088,870.

Ivory discloses all elements above, however do not disclose a base member having integral strands, the integral strands being the cleaning elements.

Hohlbein disclose a toothbrush wherein there are support members (20) that has a base member (28) having integral strands that are the cleaning elements or bristles (16; Figure 5; Column 5 Lines 19-23). Regarding claim 16, each base member (28) is welded to a plate (22; regarding "laser welded", "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) MPEP 2113; Column 5 Lines 8-19), the plate being mounted to the frame at a set of joints (see Figures). Regarding claim 17, the base member is a base string (20) and is secured to the frame at a set of joints (see Figures 2-5). Regarding claim 18, each of the joints comprises an arcuate seat (see Figures), the base member conforming in size and shape to the arcuate seat (see particularly Figures 4-6), the base member being mounted in the arcuate seat (Figures 4-6).

It would have been obvious for one of ordinary skill in the art at the time of the invention to substitute the base member of Ivory for base members having integral strands of cleaning elements, such as Hohlbein teaches, in order to manufacture the integral strands of bristles and base members in one step that does not require staples to secure the bristles.

Response to Arguments

8. Applicant's arguments filed 26 October 2007 have been fully considered but they are not persuasive.

The Applicant contends that "Ivory fails to teach or suggest a plurality of generally thin support members disposed transversely and laterally across the open area of a frame having a plurality of sets of joints, wherein each of the support members has a first end secured to the frame at one of the joints and a second end secured to the frame at one of the joints." However, the Examiner respectfully disagrees. Ivory, as mentioned above, shows in Figure 1 for example that support member 16 has a first end secured to the frame at a joint at its leftmost end as shown in Figure 1 and has a second end secured to the frame at its rightmost end via a joint near reference numeral 12. The Examiner reminds the Applicant that the claim does not require that the support members must be secured directly to the frame, just that they are to be secured at one of the joints. In Figure 1 the joint formed near reference numeral 25 and the joint near reference numeral 12 are both considered to be joints "of the frame." The Applicant also argues that Ivory does not "teach or suggest tooth cleaning elements secured to and extending outwardly from the support members *along the length of the*

support members.” Again, the Examiner respectfully disagrees. Figure 1 of Ivory clearly and distinctly shows tooth cleaning elements grouped in bunches 27, each bunch 27 extends outwardly from the support members *along the length of* the support members.

The Applicant contends that “Wall fails to teach or suggest a plurality of generally thin support members disposed transversely and laterally across the open area of a frame having a plurality of sets of joints, wherein each of the support members has a first end secured to the frame at one of the joints and a second end secured to the frame at one of the joints.” However, the Examiner respectfully disagrees. As stated above, the periphery of 22 including sides 28 of the brush of Wall is considered to be the frame (claim 1 recites in Line 4 that the frame is a “peripheral frame”). Each and all of elements 68a, 68b, and 68c are secured to the frame at a joint of the frame (the joints being each intersection of 68a-68c and the peripheral frame and the unlabeled transverse support members and the peripheral frame at sides 28, and joints are also formed at locations of the intersections of 68a-68c and the unlabeled transverse support members.)

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura C. Guidotti whose telephone number is (571) 272-1272. The examiner can normally be reached on Monday-Thursday, 7:30am - 5pm, alternating Fridays.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Hail can be reached on (571) 272-4485. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Laura C Guidotti
Patent Examiner
Art Unit 3723

lcg